SSHB 2879
Fish Passage Barrier Removal Grant Program Report

Prepared for

The Washington State Legislature
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Submitted by

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Executive Summary

Salmon need access to spawning and rearing habitat. Physical barriers interrupt adult and juvenile salmonid migrations in many parts of the state. Loss of access to habitat reduces the overall salmonid productivity and results in loss of salmonid populations. Man-made barriers include culverts, diversion dams, debris jams, dikes, lake outlet screens and other man-made stream changes. By far the most common fish passage barriers are at road crossings.

There are approximately 170,000 miles of public and private roads in the state of Washington. Only a fraction of these roads have been inventoried for fish passage barriers. Over 100 years of road building, development, and hydrologic changes have resulted in an estimated minimum 2,400 to 4,000 human-made barriers. This number is extrapolated from surveys of less than 10% of the roadways of the state. An estimated 10% of the barriers are on state roads, 40% on county and municipal roads, and the remainder are on non-public roads. These structures block fish access to an estimated 3,000 to 4,500 linear miles of freshwater spawning and rearing habitat.

Acting on recommendations from the Fish Passage Task Force Report to the Legislature, 1997 (SSSB 5886), the Legislature passed SSHB 2879 during the 1998 session. SSHB 2879 empowered the Washington State Department of Transportation (WSDOT) and the Washington Department of Fish and Wildlife (WDFW) to create the Fish Passage Barrier Removal Grant Program. The intent of this program is to provide funding opportunities to local governments, tribes, conservation districts and non-governmental entities to identify and remove barriers to salmonid migration.

WDFW received $5.75 million from the Supplemental Capital Budget for fish passage correction; $2.078 million was utilized by WDFW for priority and proprietary projects and $3.672 million was transferred to WSDOT for administration and funding for the Grant program. WSDOT and WDFW entered into a cooperative agreement for program implementation through a Memorandum of Agreement (Appendix H). The grant program requires a 25% match from the project sponsor. Matches include: funds, volunteer labor and in-kind services.

Program goals included:

- Promote barrier corrections through the direct involvement of citizens that live and work within watersheds.
- Enlist volunteer labor to stretch state dollars.
- Encourage "In- kind" matches.
- Fix as many high priority (high habitat gain) barriers in the summer of 1998 as possible.
- Identify and prioritize barriers for future correction.
- Develop a comprehensive statewide fish passage barrier database.
- Coordinate barrier corrections with other restoration efforts.

· Expand expertise for barrier design and inventory techniques to local governments, tribes and non-governmental entities.

Under cooperative agreement, WDFW evaluates the technical aspects of project proposals, such as need, feasibility and design and provides technical assistance to project proponents. WSDOT provides all aspects of program administration including call for projects, contract management and oversight, invoice approval and payment, and final project close out.

The Grant program very successfully executed a very aggressive timeline. Project money was on-the-ground three months after the bill was signed. Eight hundred fifty project applications were mailed on April 6, 1998. Application workshops were held the second week of April and applications were due on May 26. One hundred and sixty five applications were received requesting $15.6 million. Fifty-three projects were funded for a total of $3.5 million. Award letters were mailed on June 30. All applications were evaluated using scientific criteria approved by the Fish Passage Task Force. These criteria are designed to determine the projects that will provide the best habitat gain.

Four types of projects were funded: 1998 Design and Construction, 1999 Design and Construction, 1999 Design Only and Field Survey and Data Analysis.

The 53 Grant Awards were distributed for:

- 1998 Design & Construction.....26
- 1999 Design & Construction.....09
- 1999 Design Only.....09
- Field Survey & Data Analysis 09

Additional Program Benefits:

- WDFW is providing technical training and assistance on barrier design and inventory protocols to all successful applicants.
- Approximately 100 additional barriers have been identified for correction.
- Program refinement and plans for continuation are underway.
- Networks of local partnerships and well-informed, active constituencies have formed under the Fish Passage Barrier Removal Grant Program.

It is estimated that 50% of the fish barriers in the state are on non-government roads and additionally that less than 80% of the state has been inventoried. The Fish Passage Barrier Removal Grant Program is the only state grant program that involves tribes, volunteer groups and private landowners. It is imperative that these groups continue to be included in statewide salmon recovery efforts. The Fish Passage Barrier Removal Grant Program restored access to 180 linear miles of stream habitat with 15 projects that were completed this summer. That is an average of 12 linear miles of prime habitat opened up per project, at an average cost of $78,541 per project or $6545 per linear mile.

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Background

Upstream migration to spawning beds for adults salmonids and instream migration for juveniles is fundamental to the survival of salmonids. One-hundred years of human development in Washington State's rivers and streams has created numerous barriers to salmonid migration.

This problem is pervasive; fish passage barriers affect every watershed in the state. Barriers to fish passage can be found on federal, state, local government, tribal and privately held lands. The Washington State Department of Fish and Wildlife (WDFW) estimates that 2,400 to 4,000 human-made barriers block 3,000 to 4,500 miles of freshwater spawning and rearing habitat.

Causes

Man-made fish passage barriers are caused by a variety of conditions. Culverts represent a substantial portion of fish passage barriers in the state. Culverts may not have created fish passage barriers when initially placed, but alterations to the watershed or stream channel may change stream velocity, current, gradient, or morphology. Increased impervious surface in the watershed and changes to land use may increase surface water runoff and stream velocities. Insufficient maintenance may result in blocked culverts, down-cutting at the downstream culvert opening, upstream piping around the culvert, or, over time, general degradation of the culvert resulting in leakage or collapse. These changes may cause a previously passable culvert to become impassable. In addition, some culverts were not designed to provide appropriate fish passage. Examples include undersized or steep culverts which increase velocity, inadequate jump pools at the downstream culvert entrance, or insufficient flow across the bottom of the culvert. While most barriers occur at road crossings, man-made barriers include culverts, diversion dams, debris jams, dikes, lake outlet screens and other man-made stream changes.

Challenges

Programmatic challenges in addressing fish passage include the enormity and ubiquitous nature of the problem and the lack of specific information on where barriers are located, what species are being affected and how much habitat is lost for each barrier. Before the Fish Passage Barrier Removal Grant Program was created, inventories existed primarily for the Washington Department of Transportation and some county roads. Other inventories were completed by salmon enhancement groups and other non-governmental entities. Problems with inconsistent protocols and lack of a comprehensive watershed approach have complicated aggregating these data. Most of the state has not completed comprehensive inventories and most of the inventories that have been completed are not prioritized from a watershed planning perspective. To date, county inventories have been limited to Western Washington. Additionally, barriers are not always obvious making identification a labor-intensive task.

There has been limited availability of individuals with the expertise to organize and conduct fish passage inventory, design, and construction. Training programs need to be expanded. Inventories for culverts on county roads, as conducted by WDFW, cost an estimated $200,000 - $300,000 per county and are proceeding at one county inventory per biennium. To date WDFW has completed inventory for Thurston County with Kitsap and Jefferson counties partially complete. With 39 counties in the state, it will take approximately 75 years to complete inventory work utilizing WDFW staff alone.

Creating Solutions

In 1990 the Washington State Department of Transportation in partnership with WDFW created the WSDOT Fish Passage Program. The purpose of this program is to inventory and fix fish passage barriers owned by WSDOT. The program budget is approximately $4.0 million per biennium. WSDOT provides program administration while WDFW provides technical support.

In 1997 the legislature created the Fish Passage Task Force through passage of HB 5886. This is an interagency group co-chaired by WSDOT and WDFW. The task force made recommendations to the legislature regarding ways to expand the fish passage program. This group submitted their first report to the legislature in 1997 outlining recommendations to improve the fish passage program. One recommendation from the Task Force included the creation of the Fish Passage Barrier Removal Grant Program.

In 1998 the legislature passed SSHB 2879 which empowered the WSDOT to create the Fish Passage Barrier Removal Grant Program. The purpose of this program is to provided funding opportunities to local governments, tribes, conservation districts and non-governmental entities to remove barriers to salmonid migration. The grant program requires a 25% match from the project sponsor.

The legislature allocated $5.75 million from the Supplemental Capital Budget for fish passage projects. Of these $ 2.078 million was allocated to WDFW to fix barriers at hatcheries and other high priority barriers. The remainder of the funds ($3.672 million) was passed through to WSDOT for grant program administration and grant funding through a cooperative Memorandum of Agreement (MOA) (Appendix H) between WSDOT and WDFW. The MOA requires WSDOT/WDFW to jointly establish a program to provide funds to local governments, tribes and nonprofit organizations for the purpose of removing impediments to anadromous fish passage. A minimum of $842,000 was allocated for projects in the lower Columbia River Evolutionarily Significant Unit (ESU).

WDFW is responsible for providing technical assistance to grant applicants, developing a comprehensive statewide data base of fish barriers and conducting training sessions for state,

local, and private entities on standardized techniques for inventorying and prioritizing fish barriers and for design of fish barrier correction projects.

WDFW has developed a standardized and centralized fish barrier database to facilitate watershed planning. This database, of fish blockages statewide, is GIS based and will be Internet accessible. To facilitate statewide salmon recovery it is paramount that this database include all fish passage barriers in the state.

WSDOT is responsible for managing all other aspects of the program, including grant application design and preparation, evaluation of proposals, preliminary proposal selection and grant award, non-technical oversight of funded projects, program administration and fiscal management.

Grant Program Overview:

Grant Program Goals

- Promote barrier corrections through the direct involvement of citizens that live and work within watersheds.
- Enlist volunteers to stretch state dollars and encourage "In- kind" matches.
- Fix as many high priority barriers in the summer of 1998 as possible.
- Identify and prioritize barriers.
- Coordinate barrier corrections with other restoration efforts.
- Expand expertise for barrier design and inventory techniques to local governments, tribes and non-governmental entities.
- Develop a comprehensive prioritized inventory database.

With the Fish Passage Barrier Removal Grant Program operated by WSDOT and WDFW, progress is being made in utilizing volunteers , local government staff, and consultants in identifying and prioritizing existing fish passage barriers.

Program Implementation

The program milestones are summarized in Figure 1, the Timeline.

Timeline

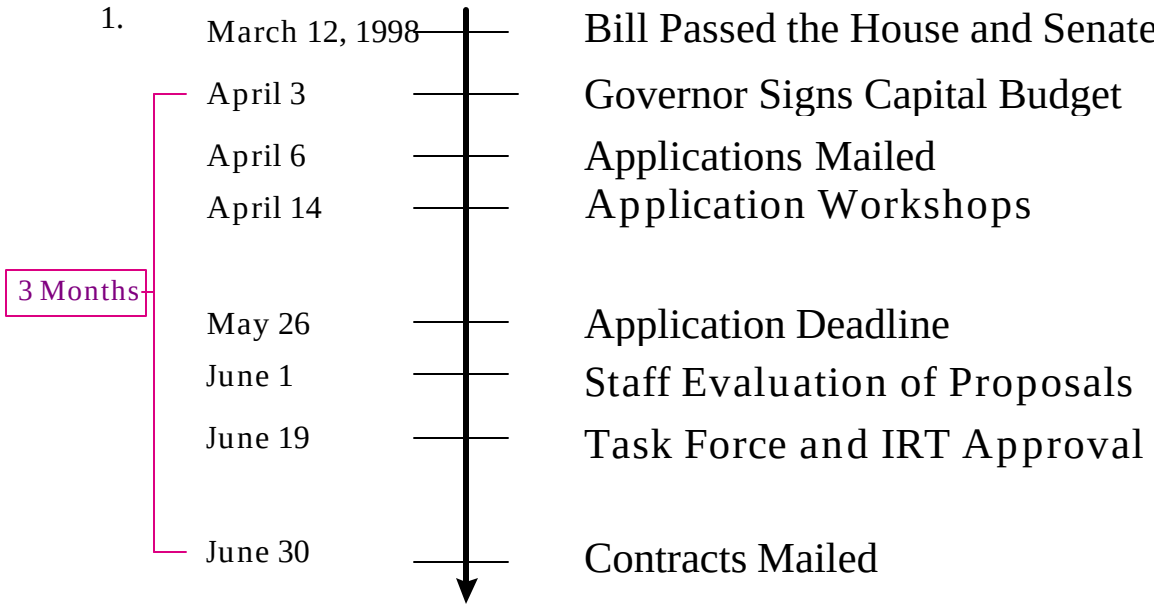

Figure 1

Application Workshops

Application workshops were held in the third week of April. The purpose of the workshops were to review program goals and application procedures and to address specific questions from potential applicants. One workshop was held in Tumwater with 33 attendees and one workshop was held in Ellensburg with 11 attendees. The Design and Construction application is Appendix F and the Field Survey and Data Analysis is Appendix G.

Application Evaluation

Project evaluation criteria were developed cooperatively between WDFW and WSDOT. Due to the short timeline of the program, project evaluation criteria were developed after the call for projects was issued. Draft criteria were distributed to the Fish Passage Task Force for their review and approval.

Criteria for barrier correction applications included a Priority Index number (Appendix A) based on the potential number of fish that would be produced on an annual basis by the habitat made accessible, the status of fish stocks (endangered, healthy, depressed, critical), the number of affected species and the cost of the project. This index value was then refined by multipliers that accounted for the degree of coordination in the watershed between partnering organizations, whether the watershed was protected, the degree of post-project monitoring and evaluation planned, and the monetary and voluntary in-kind contributions by the partners.

Field Survey and Data Analysis applications were scored with a system that included the priority index (PI) number, the potential number of fish passage barriers that would be discovered by the inventory, the status of fish stocks in the inventory area, number of species in the basin, whether the inventory included field work and barrier prioritization, and how many partners were involved. This index value was then refined by multipliers that accounted for the methodology used, the geographic extent of the inventory, and the monetary and in-kind contribution by the partners.

All grant applications were due on May 26, 1998. All projects were reviewed by a team composed of WSDOT and WDFW staff. WSDOT staff reviewed applications for minimum requirements, reviewed non-technical aspects of the application and logged results. WDFW staff review the technical aspects of the applications including potential project effectiveness, and salmon stock status. Internal reviews were completed within a week.

Because the lower Columbia region had already established a lead entity, projects for that region were reviewed and prioritized by Lower Columbia Fish Recovery Board. The WSDOT/WDFW review team worked closely with their staff on final prioritization for this region.

After internal review, the proposed funding list was reviewed and approved by the Fish Passage Task Force. Grant award letters were mailed on June 30.

The Fish Passage Barrier Removal Grant projects were then coordinated with the Habitat Recovery Grant projects under ESHB 2496. This was accomplished through the Interagency Review Team (IRT) before awarding Habitat Recovery Grants. The IRT utilized the Fish Passage Barrier Removal Grant list to leverage the results of other restoration activities through project coordination.

Grant Awards

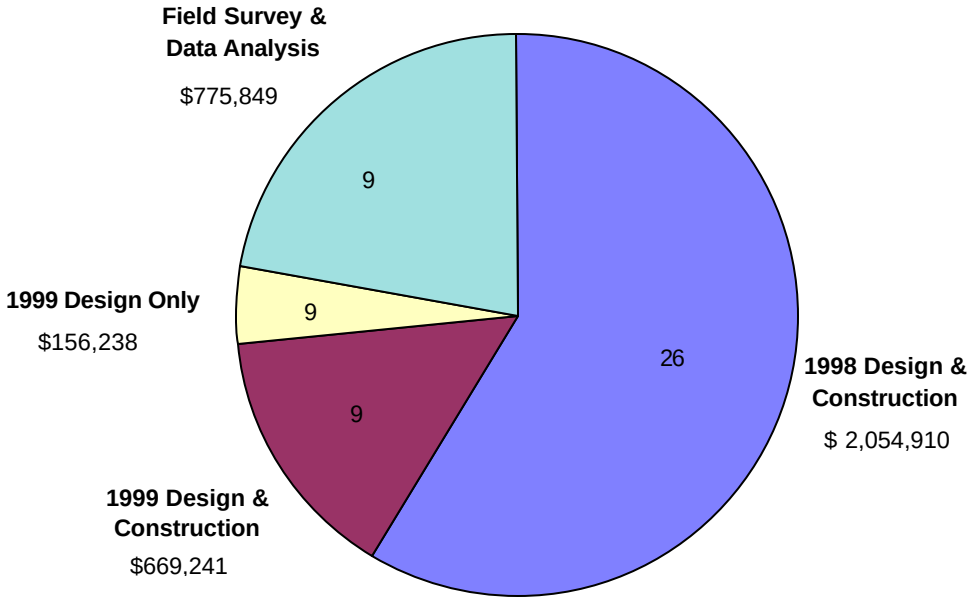

Figure 2

Design and Correction Projects

Of the 142 applications for design and/or correction of fish passage barriers, 35 grants were funded for construction work and another 9 were funded for design only. All projects were scored with the evaluation criteria and ranked in order of that score. Highest scored projects were selected for funding. Projects scores ranged from 115.5 points to 5.2 points. Based upon the information provided by the applicants, 15 construction projects were completed in 1998 opening up 290,000 linear meters (180 miles) of habitat. Figure 2 summarizes the grant amounts by project type.

The intent of the program was to select projects for construction that could be completed in the summer of 1998. However, due to limited construction "windows" and the short program timelines, some of the projects that received construction funds will not be constructed until 1999. Limits are placed on construction dates by WDFW as part of the HPA permit process to avoid impacts to spawning fish.

Of the 26 1998 construction projects, fifteen projects were completed and eleven projects were not and are expected to be completed in the summer of 1999. Nine design only projects were funded to help communities that do not have the funding, technical expertise or staff for

project design. Providing funds for these design projects increases the opportunity for funding these high priority barriers in subsequent construction seasons. Figure 3 is a map indicating both funded and unfunded projects for barrier correction. All approved projects are summarized in Appendix B. Summaries and photos of the summer 1998 completed correction projects are included in Appendix C.

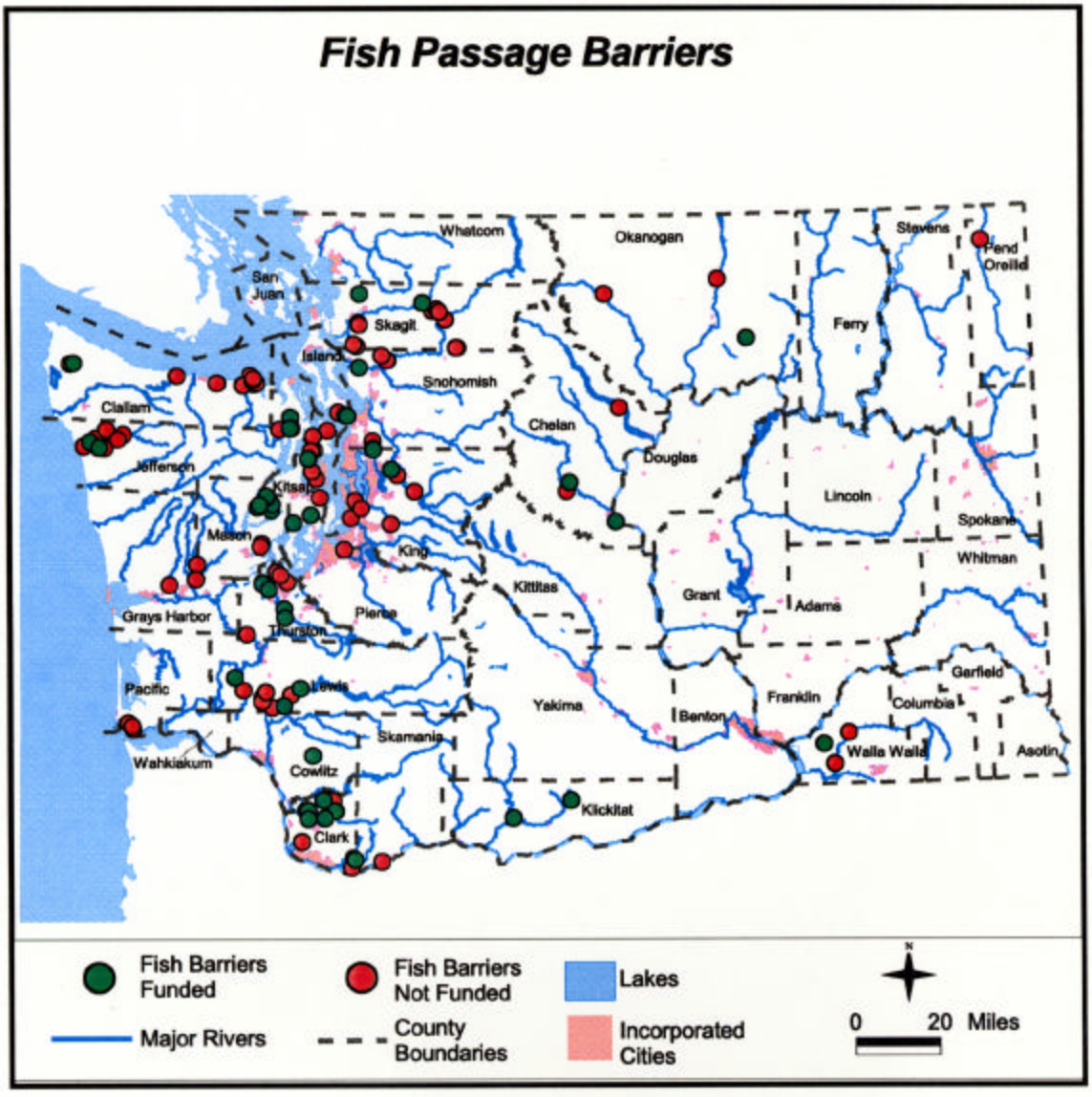

Figure 3

Inventory Projects

The intent of the Field Survey and Data Analysis grants is to identify and prioritize fish passage barriers statewide and develop a comprehensive database.

Nine fish passage barrier Field Survey and Data Analysis grants were funded in 1998. All projects were scored with the pre-approved evaluation criteria (Criteria, Appendix E; Application, Appendix G). Scores varied from a maximum score of 28.5 to a minimum score of 3.5 for 25 applications. Figure 4 is a map of the areas to be surveyed under Field Survey and Data Analysis grants.

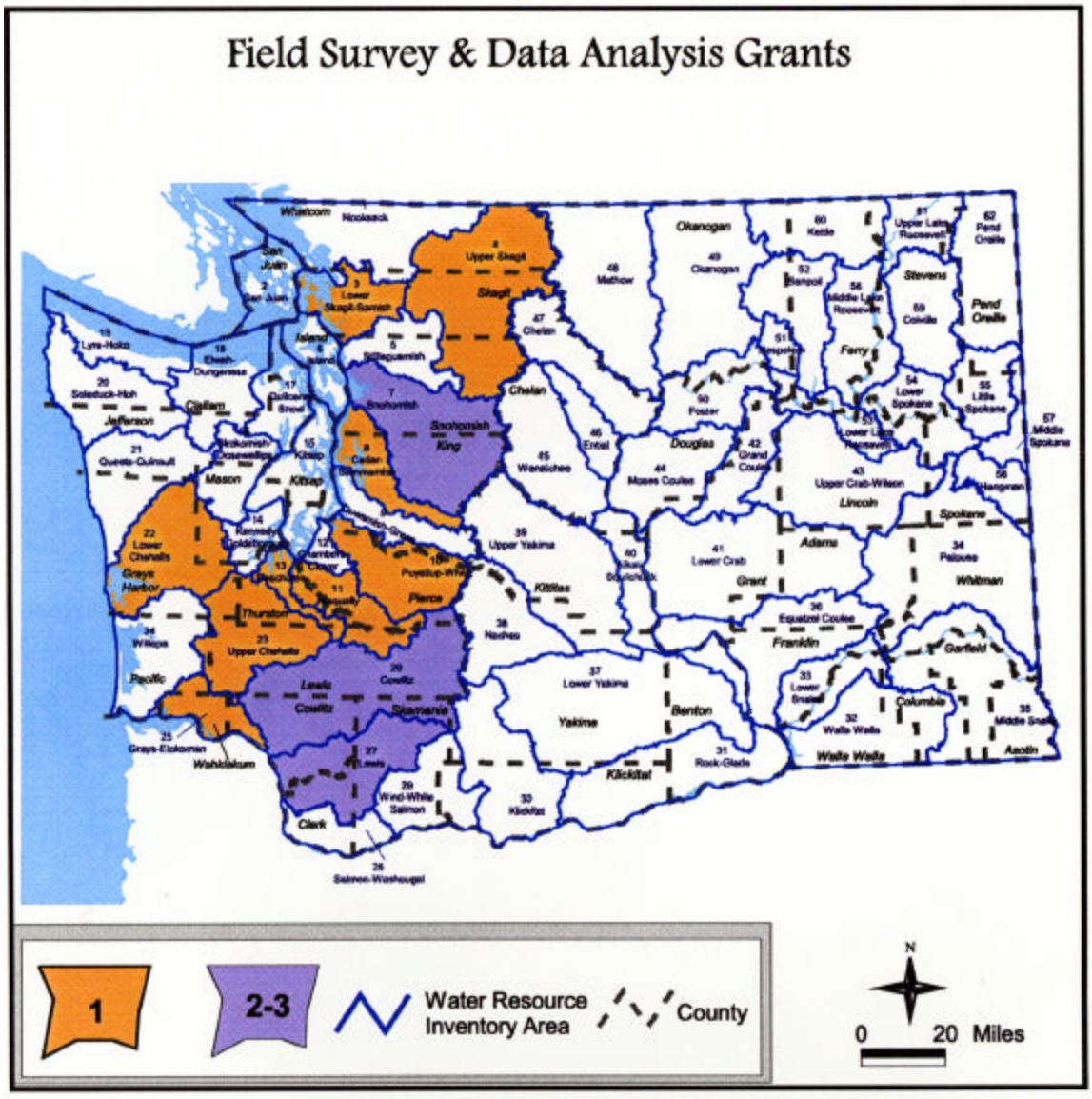

Figure 4

Inventory Workshops

WDFW is providing training on inventory methods to all successful applicants. Six of the nine successful applicants have received the first stage of training. This involves a session in the classroom and a session in the field. Most of the groups have yet to begin their inventories but,

once they do several more days will be spent with each applicant to ensure that the inventory protocol is understood and correctly applied during the process. WDFW has also been available for a number of meetings and telephone consultations to help the applicants set up their inventories.

WDFW prepared a training manual that can be used by the grant groups or anyone interested in conducting barrier assessment and prioritization. This "Fish Passage Barrier Assessment and Prioritization Manual" is available by calling Paul Sekulich, WDFW, 360-902-2527. The manual provides instruction on how to record a culvert, determine if a culvert is a barrier, how to quantify the habitat gain that would be realized if the barrier were corrected, how to prioritize the barrier for correction, and how to set up a database that is compatible with and can be received into the centralized fish passage database maintained by WDFW.

Design Workshops

Five design training workshops were performed introducing the new draft WDFW Culvert Design Manual. This manual will be added to the WDFW web site (http://www.wa.gov/wdfw/) by January 1999. These workshops provided design techniques to engineers and created contacts for technical assistance for future grant applicants. If additional funding is provided, four or five similar training sessions will be performed in March 1999 in conjunction with the grant application workshops to ensure adequately designed projects and conceptually sound applications and to introduce applicants to the scoring strategy.

Program Outreach

Relatively few applications were received from eastern Washington and further program outreach is needed. An environmental consultant has been contracted to extend outreach to eastern Washington. David Evans and Associates will conduct site visits with approximately 35 eastern Washington local governments, tribes and non-governmental groups during the month of February. The goal of the site visits is to raise awareness of the program and provide technical assistance for program application. It is hoped that, through this effort, more high quality applications will be received from this area of the state.

Project Evaluation and Close-out

All project status is being tracked in a database. WSDOT has conducted field surveys of both funded and unfunded projects. Global Positioning System coordinates and pictures were taken of all sites (including project sites that were not funded). 1998 construction projects will receive a field review from WDFW and the project will be evaluated for successful fish passage. A final close-out letter, serving as a certificate of completion and determining sufficient fish passage will then be written by WDFW. For 1999 design projects, WDFW will provide technical assistance to ensure successful fish passage design. Currently 20 applicants have been contacted with completion of the remaining contacts expected by January 31, 1999.

Future Plans

Approximately 100 applications for barrier removal are on file awaiting funding. Additional barriers are being identified through the inventory projects. The current program work plan calls for a new round of project applications for fiscal year 2000 to broaden the project pool. Materials will be distributed the first week of March of 1999. Five application workshops are also planned for March and April. As a part of these day-long workshops, WSDOT and WDFW will provide an introduction to the application, training on what is expected of groups conducting field survey and data analysis and an overview of scoring criteria. Applications will be due by the middle of May. New applications will be scored with a refined set of criteria.

If the program receives funding, new project applications and applications already on file will be granted in order of priority. The nine projects that received funding for design in 1998 all received high ratings and should receive funding first. Grants will be awarded by the start of the new biennium. As with the previous year, projects will be closely coordinated with other habitat recovery projects through the Interagency Review Team established under ESHB 2496.

Future Needs

Fish passage barriers are a significant factor in fish recovery and thousands of barriers still remain. Land and road managers are making progress in removing these barriers but, *funding is still a limiting factor*. During the first round of applications to the Fish Passage Barrier Removal Grant Program, over $15.5 million of projects were identified for $3.5 million of funds. The application time frame for this program was extremely short and limited the number of applications. This program provides an important and needed service and should be continued and expanded. Direct funding should be expanded for survey, inventory and prioritization of unknown barriers and for the correction of known barriers. Additionally, funds are needed for the monitoring, maintenance and replacement of existing structures to avoid the creation of new fish passage barriers.

Existing inventory and prioritization efforts need to be expanded to cover the entire state. The Survey and Data Analysis Grant recipients have started the process of identifying barriers and compiling data for the database but, approximately 80% of the state remains to be inventoried and prioritized.

Because estimates indicate that 50% of the barriers are on non-public roads, it is imperative that the Fish Passage Barrier Removal Grant Program continue to include volunteer groups, tribes and private landowners as well as state and local governments.

Training in fish barrier correction design for WSDOT and consultant hydraulic engineers should be expanded and continue to be offered. Ongoing intra/interagency training programs should be

continued to educate professionals on the current fish passage statutes and encourage early consideration of fish passage issues when developing roadway projects. Annual training courses in both protocol and design options should be continued to support the development of firm guidelines on barrier assessment methods.

There is also a need for funding to compile hydrologic data and fish species distribution information to promote quality assessment and design work. Funding should be provided to update the 1992 Salmon and Stealhead Stock Inventory (SASSI) report and incorporate this information into the database.

Conclusion

Networks of local partnerships and well-informed, active constituencies have formed under the Fish Passage Barrier Removal Grant Program and are operating with a watershed approach. They are accelerating fish barrier identification and correction by promoting the direct involvement of citizens that live and work within the watersheds. Enlisting volunteers and coordinating efforts with Regional Enhancement Groups in programs that combine hands-on stream restoration with fish passage barrier removal enhances the overall effectiveness of the program.

As a whole the Fish Passage Grant Program was a remarkable success. Strong working relationships were created between WSDOT, WDFW and grant applicants. This program developed a strong base for continued salmon recovery projects.

Appendix A

Priority Index Criteria

Priority Index

The variety in costs, amounts of habitat gain, and species utilizing potential project sites throughout Washington State can make the characterization and prioritization of corrections to fish passage barriers complex. The WDFW Fish Passage Inventory process uses a Priority Index model to consolidate the many factors which affect a project's feasibility (expected passage improvement, production potential of the blocked stream, fish stock health, etc.) into a manageable framework for developing prioritized lists of projects. The result is a numeric indicator giving each project's relative priority that includes production benefits to both anadromous and resident salmonid species adjusted for sympatric species interactions (species complexes). The Priority Index (PI) for each barrier is calculated as follows:

$$PI = \sum_{all\ species} \sqrt[4]{[(BPH) \times MDC]}$$

Where:

PI = Priority Index

- Relative project benefit considering cost.
- The PI is actually the sum ($S_{all\ species}$) of individual PI values, one of which is calculated for each species present in a stream (*e.g.*, PI_{coho} is added to PI_{chum} to obtain $PI_{all\ species}$).
- The quadratic root in the equation is used because it provides a more manageable number and represents a geometric mean of factors used.

B = Proportion of passage improvement

- Proportion of fish run expected to gain access due to the project (passability after project minus passability before project); gives greater weight to projects providing a

greater margin of improvement in passage.

- Barriers are assumed to be total and have a value of 1.0. Modifications to this approach can be applied with advanced levels of expertise.

P = Annual adult equivalent production potential per m^2

- Estimated number of adult salmonids that can potentially be produced by each m^2 of habitat annually.

- The values (adults/m^2) are species specific; chinook salmon = 0.016, chum salmon = 1.25, coho salmon = 0.05, pink salmon = 1.25, sockeye salmon = 3.00, steelhead = 0.0021, brook trout = 0.04, brown trout = 0.0019, bull trout = 0.0007, cutthroat trout = 0.037, and rainbow trout = 0.0048.

H = Habitat gain in m^2

- Measured/calculated from physical survey; gives greater weight to projects which will make greater amounts of habitat available.

- Spawning area values used for species complexes normally limited by spawning habitat (sockeye, chum, pink salmon) and rearing area values used for species complexes normally limited by rearing habitat [(coho, chinook, steelhead) and (cutthroat, rainbow, bull trout) and (brook and brown trout)].

- When more than one species within a species complex is present H is modified to reflect sympatric interactions among species with similar freshwater life histories. The result is a reduction of single species habitat area values when competing species coexist.

M = Mobility Modifier

- Accounts for benefits to each fish stock for increased mobility (access to habitat being evaluated); gives greater weight to projects that increase productivity of species that are highly mobile and subject to geographically diverse recreational and commercial fisheries by providing access to habitat currently limiting productivity.

- 2 = Highly mobile stock subject to geographically diverse recreational and commercial fisheries (anadromous species)

- 1 = Moderately mobile stock subject to local recreational fisheries (resident species)

- 0 = Increased mobility of stock would have negative or undesirable impacts on productivity or would be contrary to fish management policy. By default, exotic salmonid species such as brook trout and brown trout are assigned a 0 value unless they are the only salmonid species present in the system.

D = Species Condition Modifier

- Representation of status of species present; gives greater weight to less healthy species as listed in *Washington State Salmon and Steelhead Stock Inventory (SASSI)* (WDF, *et al.* 1993) and *Washington Salmonid Stock Inventory, Bull Trout/Dolly Varden* (WDFW 1997). In the absence of a SASSI assignment, stock condition should be estimated using the best available information.

  3 = Condition of species considered critical.

  2 = Condition of species considered depressed or stock of concern.

  1 = species not meeting the conditions for 2 or 3.

C = Cost Modifier

- Representation of projected cost of project; gives greater weight to less costly projects.

  3 = incremental funds needed ≤ $100,000...

  2 = incremental funds needed >$100,000 and ≤$500,000...

  1 = incremental funds needed >$500,000...

- All barriers receive a cost modifier value of 2 until engineering evaluations are completed.

Appendix B

Summary of Grant Recipients and Projects

Appendix B
Summary of SSHB 2879 1998 Grant Recipients and Projects

Recipient Name	*Project or WRIA**	*Award $*	*Match $*
Adopt A Stream Foundation	Survey-WRIA 7,8	$38,900	$18,255
Chelan County	Chumstick Creek	$2,400	$800
Chelan County	Squilchuck Creek	$45,000	$15,000
City of Olympia	Mottman Road SW	$26,719	$8,907
City of Woodinville	NE 195th Street	$2,250	$750
City of Woodinville	NE 205th Street	$1,500	$500
Clallam County	Hoko-Ozette, MP 11.33	$98,391	$41,725
Clark County	Riley Creek/Finalburg Road	$13,119	$4,374
Clark County	Cedar Creek/Amboy Road	$27,198	$16,258
Clark County	John Creek/Cedar Creek Road	$67,778	$22,593
Clark County	Brickie Creek/Lucia Falls Road	$24,746	$8,249
Clark County	Lockwood Creek/Taylor Valley Road	$30,644	$10,215
Clark County	Dean Creek/NE 66th Place	$53,334	$17,778
Clark County	Winkler Creek/NE Borin Road	$23,556	$7,852
Clark County	Coyote Creek/Washougal River	$21,445	$7,149
Clark County Conservation District	Survey-WRIA 27	$55,308	$18,436
Colville Confederated Tribes	Camp Seven Creek	$23,988	$18,052
Cowlitz Conservation District	Survey-WRIA 25,26,27	$87,250	$56,200
Cowlitz Conservation District	Monahan Creek	$200,000	$90,950
Grays Harbor County Conservation District	Survey-WRIA 22	$118,924	$46,630
Island County	Glendale Creek	$18,900	$18,900
Jefferson County	Hoh River Tributary	$247,500	$173,500
Jefferson County	Barnhouse Creek	$118,380	$39,460
Jefferson County	E. Fork Tarboo Creek #2	$6,000	$19,680
Jefferson County	East Fork Tarboo Creek	$16,500	$5,500
King Co.	Evans Creek	$60,500	$69,399
Kitsap County	Little Bear Creek	$92,025	$30,675
Kitsap County	Big Scandia Creek/NW Scandia Road	$132,195	$44,065
Kitsap County	Big Scandia Creek Fishway/Viking Way NW	$62,250	$20,750
Klickitat County	Turkey Ranch Road	$60,000	$20,000
Klickitat County	Soda Springs Road	$52,500	$17,500
Lewis County	Survey-WRIA 11,13,23,26	$183,607	$61,212
Lewis County	Spencer Road/Jones Creek	$146,711	$48,904
Lewis County	Toledo-Salmon Creek Rd/ Little Salmon Creek	$104,364	$34,789
Lewis County	Lost Valley Road/Lost Creek	$238,703	$79,568
Mason County	White Creek Crossing	$75,000	$25,000
Mason County Conservation District	Huson Creek	$66,589	$26,667
Mason County Conservation District	Ludvick Lake	$59,570	$26,667
Mason County Conservation District	Oak Lake Creek	$98,308	$32,828
Pierce County	East Fork Rocky Creek Bridge	$40,000	$40,000
Pierce County Conservation District	Survey-WRIA 10	$129,715	$50,200
Skagit County	Lornezan Creek	$20,000	$20,000
Skagit County	Parsons Creek	$30,000	$10,000
Skagit Systems Cooperative	Survey-WRIA 3,4	$45,244	$204,200
Snohomish County	Trib 30/229th St. NW	$54,150	$18,050
South Puget Sound Salmon Enhancement	Deschutes River "Oxbow"	$50,000	$75,000
Thurston County	#3161 Vantine Road SE	$1,500	$500
Thurston County	#1296 Houston Drive	$5,250	$9,450
Washington Trout	2 Surveys-WRIA 7	$116,901	$336,418

1998 Construction	$	2,036,510.00
1999 Design and Construction	$	669,241.00
1998 Field Survey & Data Analysis	$	775,849.00
TOTAL**	$	3,481,600.00

Contact: Cliff Hall
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360-705-7499

* **Note: WRIA = Water Resource Inventory Area**

** **Note: Some grant money was returned due to project complications.**

Appendix C

Barrier Correction Projects Photos

Due to the size and space requirements of the project photos,
they are not available to the on-line report.

Appendix D

Construction Project Evaluation Criteria

Not available in electronic version of this document.

Appendix E

Field Survey and Data Analysis Criteria

Not available in electronic version of this document.

Appendix F

Design & Construction Grant Application

1998
Washington State Fish Passage Grant Program

Application For

Fish Passage Barrier Removal Design and Construction Grants

WSDOT Official Use Only	
Application # DC-	Grant #

INSTRUCTIONS

BARRIER REMOVAL DESIGN AND CONSTRUCTION APPLICATION

Note : Fill out one application for each proposed barrier removal project.

Section 1. General Information page 6

Fill out the lead organization information completely. Applications that fail to indicate the project lead will not be accepted. Unsigned applications cannot be accepted. Fill out the barrier owner information completely. Applications without the barrier owner's signature cannot be accepted.

Preference will be given to projects that coordinate effort with one or more organizations. Each partner organization must sign the application to gain preference. Merit points will be given for each partner organization up to three partner organizations per project. Attach extra copies of the signature sheet with partner information and signatures as needed.

Section 2. Project Summary page 7

This section will be used to determine overall project feasibility.

Question 1. Include a title for this project.

Question 2. Provide all information as indicated. When answering questions c) and d) refer to the statewide map of Watershed Resource Inventory Areas, provided in Appendix A. Attach a map of the area where the barrier is located. The map should be of sufficient detail to pinpoint the barrier location. The map attachment should be no larger than 8.5" by 11". A portion of a United States Geographic Survey (USGS) quadrangle map will suffice.

Question 3. Do not exceed the space provided when describing the existing barrier in question 3a). Attach pertinent sketches and photos. Attachments should be no larger than 8.5" x 11".

When answering question 3b), check all categories that apply. If the barrier type is "Other" please explain the nature of the barrier in the space provided.

When answering question 3c) check "Summer 1998 construction" only if all design work is completed and permits have been applied for. Priority will be given to those projects that rank high in the scoring and are ready for construction in the summer 1998 construction season. If design work has not been completed and permits have not been applied for, check the "Summer 1999 construction" box.

When answering question 3d) if no design work has been completed on the proposed barrier correction, a written description will suffice. If design work is completed, attach plans and sketches. 8.5" x 11" format is preferred, however full construction plans will be accepted.

When answering 3f) indicate any impediments to project completion. Such impediments could include land owner permission for access or barrier correction work, chronic flooding, difficult site access, etc. If impediments are indicated note how these impediments will be overcome.

Describe any plans for evaluating the effectiveness of the barrier correction in 3g). Include the methods you intend to use for determining baseline data prior to barrier construction and methods to be used in monitoring the project after construction.

Section 3. Species/Habitat Information page 10

Question 1. Refer to the Table in Appendix B for fish stock status. This table is taken directly from the Salmon and Steelhead Stock Index (SASSI) published by the Washington State Department of Fish and Wildlife in 1992. If other information is used to determine stock status, please indicate the information source. (e.g. name and title of tribal biologist, more recent WDFW surveys, etc.) Check each box in the matrix to indicate presence of a species.

Question 2. Enter the Priority Index (PI) number if a formal WDFW Survey and Inventory has been completed for the proposed barrier correction. If the PI number is known you may skip to Section 4. If the PI number is not known or has not been generated for this barrier correction, questions 3 through 6 will provide enough information to generate a PI number. The methodology that the department will use to generate the PI number is located in Appendix C.

Question 3 & 4. Stream length and width must be reported in lineal meters. Make sure that the amount of stream bed opened up due to this barrier correction is indicated in meters. The conversion factor from feet to meters is 0.3048 (multiply the number of lineal feet by 0.3048 to get lineal meters.)

Question 5. If there are known barriers downstream from the proposed barrier correction, indicate where the downstream barriers are located and the extent of the downstream barrier (partial or full barrier). Also indicate if there are proposed barrier corrections for the downstream barriers. Use additional paper if necessary (8.5" x 11" format please).

Question 6. If the percent of blockage is unknown, indicate whether the barrier is total or partial to fish passage for any salmonid species. Partial blockages will be assumed to block 50% of fish from passing. If the percent blockage is known with

some certainty, indicate the percent blockage for each species, the information source and the method used for determining blockage.

Section 4. Coordination page 11

Answers in this section will increase the overall score of the project. Projects that are part of a comprehensive recovery program will be given preference.

Question 1. Describe any other activities for fish restoration that are being coordinated within the watershed or governmental jurisdiction. Be sure to include habitat enhancement projects as well as other fish passage barrier corrections. Note the location of these projects compared to the proposed barrier correction. Use additional paper if needed.

Question 2. Indicate who conducted the survey, the survey methods used and the date of the survey. Be sure to include the ranking of this barrier correction if the barriers in the survey have been prioritized.

Question 3. Indicate if the stream or watershed has been identified by a local government as a priority for salmonid restoration or protection. Indicate the entity that made the determination, the method used to make the determination and the date of the determination. You may be asked to provide written documentation.

Question 4. Indicate if the county is planning under the Growth Management Act and if the watershed has been given any special protections.

Question 5. Indicate if the barrier was identified in a local government sponsored inventory of barriers. If the barrier was identified and the inventory was ranked, indicate the ranking of this barrier.

Section 5. Permit Information page 12

This section is used to determine the readiness of the project for construction. Projects that are proposed for the summer 1998 construction season should have initiated and acquired most of the required permits. Projects that are proposed for the summer 1999 construction season are not expected to have acquired permits.

NOTE: *Fish Restoration project permit process was streamlined during the 1998 Legislative Session. Your project is probably eligible for this streamlined process. At the time of this printing, process changes have not been finalized. Process changes only apply to local and state permits. All relevant federal permits are still required.*

Fill out the matrix as completely as possible. Indicate the status of each permit. If the project is newly proposed, and permit status is unknown, indicate unknown in the column next to the agency name. If information is unknown and the barrier

correction is proposed for the summer 1998 construction season, your application may not be accepted or funding may be deferred to the summer 1999 construction season.

Section 6. Financial Summary page 13

Indicate the grant request amounts for design, construction and the total amount of the request.

Indicate all other funding sources in the space provided. Be sure that other funds (including in-kind matches) equal a minimum of 25% of the total project cost. Previously developed design materials may be used in the match and should be valued at the actual cost of development. Only costs associated with this barrier correction may be used in the match.

In-Kind matches include: volunteer time, donated equipment time, and donated materials. All volunteer time, donated equipment time and donated materials must be valued at prevailing rates. Include a separate schedule that indicates the source of the contribution, the assumed hourly wage for valuing volunteer time, the number of volunteer hours, and the tasks to be completed by volunteers; the hourly rate for donated equipment time and the number of equipment hours; and the actual cost and description of materials for all donated materials. Note that if materials are donated by a wholesaler, the reported material costs must be the wholesaler's cost, not the retail cost. If exorbitantly high wages and costs are reported, the department may deny the match.

Section 1: General Information

LEAD ORGANIZATION NAME _____
Address _____
Project Lead _____
Phone number _____ FAX number _____
Email _____

I CERTIFY TO THE BEST OF MY KNOWLEDGE THAT THE INFORMATION IN THIS APPLICATION IS TRUE AND CORRECT AND THAT I AM AUTHORIZED TO SIGN AND SUBMIT THIS INFORMATION ON BEHALF OF THE APPLICANT. If the signatory is not a board chair, city manager, county executive, tribal chair, board of commissioners chair, etc., a resolution authorizing the signatory to sign on behalf of the public body must be attached.

Signature of Project Lead _____ Date _____
Signature of Organization
Chief Executive Officer _____ Date _____

Barrier Owner
Name _____
Address _____
Phone number _____ FAX number _____
Email _____

I certify as the owner of the fish passage barrier identified herein, that once corrected I will assume ownership and maintenance of the completed fish passage project and maintain it so as to freely pass fish per RCW 75.20.060 and RCW 77.16.210.
Signature of Owner _____ Date _____

Partnering Organization Name _____
Address _____
Lead person _____
Phone number _____ FAX number _____
Email _____

I CERTIFY TO THE BEST OF MY KNOWLEDGE THAT THE INFORMATION IN THIS APPLICATION IS TRUE AND CORRECT AND THAT I AM AUTHORIZED TO SIGN AND SUBMIT THIS INFORMATION ON BEHALF OF THE APPLICANT. If the signatory is not a board chair, city manager, county executive, tribal chair, board of commissioners chair, etc., a resolution authorizing the signatory to sign on behalf of the public body must be attached.
Signature of Organization
Chief Executive Officer _____ Date _____

Partnering Organization Name ____
Address ____
Lead person ____
Phone number_______________________________ FAX number _______________________
Email ____

I CERTIFY TO THE BEST OF MY KNOWLEDGE THAT THE INFORMATION IN THIS APPLICATION IS TRUE AND CORRECT AND THAT I AM AUTHORIZED TO SIGN AND SUBMIT THIS INFORMATION ON BEHALF OF THE APPLICANT. If the signatory is not a board chair, city manager, county executive, tribal chair, board of commissioners chair, etc., a resolution authorizing the signatory to sign on behalf of the public body must be attached.

Signature of Organization
Chief Executive Officer __________________________________ Date ____________________

Partnering Organization Name ____
Address ____
Lead person ____
Phone number_______________________________ FAX number _______________________
Email ____

I CERTIFY TO THE BEST OF MY KNOWLEDGE THAT THE INFORMATION IN THIS APPLICATION IS TRUE AND CORRECT AND THAT I AM AUTHORIZED TO SIGN AND SUBMIT THIS INFORMATION ON BEHALF OF THE APPLICANT. If the signatory is not a board chair, city manager, county executive, tribal chair, board of commissioners chair, etc., a resolution authorizing the signatory to sign on behalf of the public body must be attached.

Signature of Organization
Chief Executive Officer __________________________________ Date ____________________

Partnering Organization Name ____
Address ____
Lead person ____
Phone number_______________________________ FAX number _______________________
Email ____

I CERTIFY TO THE BEST OF MY KNOWLEDGE THAT THE INFORMATION IN THIS APPLICATION IS TRUE AND CORRECT AND THAT I AM AUTHORIZED TO SIGN AND SUBMIT THIS INFORMATION ON BEHALF OF THE APPLICANT. If the signatory is not a board chair, city manager, county executive, tribal chair, board of commissioners chair, etc., a resolution authorizing the signatory to sign on behalf of the public body must be attached.

Signature of Organization
Chief Executive Officer __________________________________ Date ____________________

Section 2: Project Summary

1. **Title:**
2. **Location:** (attach an 8.5"x11" USGS Quadrangle)
   a) Stream name:
   b) Tributary of:
   c) WRIA Name(s):
   d) WRIA Number(s):
   e) Stream mile:
   f) Road Name: _____ Mile: _____
   g) Legal Description
      Section _____ Township _____ Range _____
   h) County(s) in which project will be implemented:

3. **Description:**

   a) Describe the existing barrier and proposed correction: (Attach a sketch and photographs of the barrier.)

   b) Type of Barrier. (Check all that apply)
      i) ☐ Velocity
      ii) ☐ Outfall drop off
      iii) ☐ Inadequate Depth
      iv) ☐ Other (explain)

   c) Project Type:
      i) ☐ Summer 1998 construction
      ii) ☐ Summer 1999 construction

d) Proposed correction. (Attach engineering plans or sketches)

e) Is there more design work planned for this project? (explain)

i) Name of design organization:
ii) Name of design contact:
iii) Phone number:

f) Are there any impediments to project completion (e.g. remote or inaccessible site, inability to gain access permission, etc.)

g) Please describe any plans and methods for verifying the benefits of the project.

i) Baseline Information: Please list who did the assessment, what method was used, and the date of the report.

ii) Monitoring: Please list who will do the assessment, what method will be used and the anticipated dates of progress and final reports.

Section 3: Species/Habitat Information

1. In the matrix below check the salmon and trout species occurring in this stream and their status according to the SASSI report.(See Appendix B) (If source is other than SASSI reference it in the "Info Source" column below.)

	Healthy	Depressed	Critical	Unknown	Info Source
Chinook					
Coho					
Sockeye					
Chum					
Pink					
Steelhead					
Bull Trout/ Dolly Varden					
Rainbow					
Cutthroat					
Cutthroat (sea run)					

	Present	Info Source
Brown Trout		
Atlantic Salmon		
Brook Trout		

2. Has this project been identified by WDFW and received a Priority Index (PI) Number?

   a) Yes ☐
   b) No ☐
   c) If yes enter the PI# _____ and skip to **Section 4**.

3. How many lineal **METERS** of stream will be opened through this project?

4. What is the average stream width, in **METERS**, above the barrier that will be opened?

5. Are there fish passage barriers upstream or downstream from this project?

   a) Yes ☐
   b) No ☐
   c) If yes, please identify:

6. Is this a partial or total barrier?_____

   a) Information Source:

   b) Method Used:

Section 4: Coordination

1. Describe any coordination with other fish enhancement projects in the watershed (federal, state, local, etc.).

2. Was this barrier identified in a comprehensive inventory of fish passage barriers in this watershed?

   a) Yes ☐
   b) No ☐
   c) If yes, please list who did the inventory, what method was used and the date of the report.

3. Has the stream or watershed been identified by local government as a priority for salmonid habitat restoration or protection?

   a) Yes ☐
   b) No ☐
   c) If yes, please list who identified it, what method was used and the date of the report.

4. Has the stream or watershed been protected through Critical Area Ordinances (CAO), Habitat Conservation Plans (HCP) or other mechanisms? Please explain.

5. Was this barrier identified in a local government inventory of barriers?
   a) Yes ☐
   b) No ☐
   c) If yes, how did it rank?

Section 5: Permit Information

Please complete the appropriate permit status boxes for your project.

PERMIT	NOT REQUIRED	REQUIRED	PENDING	OBTAINED	PERMIT #
HPA					
Corps Section 404					
Ecology 401 Cert.					
Shorelines					
Local (County/City)					
NEPA/SEPA					
Access					
Fed ESA Coord					

PERMIT	Agency	Date	Contact/Phone #
HPA			
Corps Section 404			
Ecology 401 Cert.			
Shorelines			
Local (County/City)			
NEPA/SEPA			
Access			
Fed ESA Coord			

Section 6: Financial Summary

GRANT REQUEST	**Design**	**Construction**	**Total**
Fish Passage Grant Request			
LEAD ORGANIZATION NAME :			
Phase	Design	Construction	**Total**
Fund Source(s)			
State			
Local Funds			
Private Funds			
In-Kind			
Other:			
SubTotal			
Participating Organization:			
Phase	Design	Construction	**Total**
Fund Source(s)			
State			
Local Funds			
Private Funds			
In-Kind			
Other:			
SubTotal			
Participating Organization:			
Phase	Design	Construction	**Total**
Fund Source(s)			
State			
Local Funds			
Private Funds			
In-Kind			
Other:			
SubTotal			
Total Contributions			
Total Contribution Percent			
Anticipated Completion Date			

Attachments:

- **WATER RESOURCE INVENTORY ASSESSMENT (WRIA) MAPS**
- **SALMON AND STEELHEAD STOCK INVENTORY (SASSI) TABLES**
- **PRIORITY INDEX METHODOLOGY**

Appendix G

Field Survey and Data Analysis Grant Application

1998

Washington State Fish Passage Grant Program

Application For

Fish Passage
Field Survey and Data Analysis
Grants

WSDOT Official Use Only	
Application #SI-	Grant #

INSTRUCTIONS

FIELD SURVEY AND DATA ANALYSIS GRANT APPLICATION

Note: WDFW and WSDOT will hold workshops in the Fall of 1998 to train individuals in Field Survey and Data Analysis methods. Successful applicants are expected to attend a workshop to gain competency or show proof of competency.

Section 1. General Information page 4

Fill out the lead organization information completely. Applications that fail to indicate the project lead will not be accepted. Unsigned applications cannot be accepted.

Preference will be given to projects that coordinate effort with one or more organization. Each partner organization must sign the application to gain preference. Merit points will be given for each partner organization up to three partner organizations per project. Attach extra copies of the signature sheet with partner information and signatures as needed.

Section 2. Project Summary page 5

This section will be used to determine overall project feasibility.

Question 1. Include a title for this project.

Question 2. Provide all information as indicated. When answering question 2 a) refer to the statewide map of Watershed Resource Inventory Areas, provided in Appendix A.

When answering question 2c), if only a segment of a WRIA is proposed for this project, indicate specifically what area will be included. Attach a map for the area where the Field Survey and Data Analysis will be completed. A portion of a United States Geographic Field Survey (USGS) quadrangle map will suffice.

Question 3 through 5 . Do not exceed the space provided for written descriptions. If methods for evaluating barrier locations, assessment of passability or barrier prioritization are not determined at this time, indicate how these methods will be determined,

Question 6. Estimate the number of road miles covered by the proposed Field Survey. If the Field Survey is oriented to stream miles and not road miles, specify streams miles and indicate the number of stream miles to be inventoried.

Question 7. If the number of stream crossings is inestimable then write unknown in the space provided.

Question 8. If there are many private owners, do not list individual owner, but break out ownership by percentage private, state, local government, federal government, etc.

Section 3. Species/Habitat Information page 7

Question 1. Refer to the Table in Appendix B for fish stock status. This table is taken directly from the Salmon and Steelhead Stock Index (SASSI) published by the Washington State Department of Fish and Wildlife in 1992. If other information is used to determine stock status, please indicate the information source. (e.g. name and title of tribal biologist, more recent WDFW Field Surveys, etc.) Check each box in the matrix to indicate presence of a species.

Section 4. Financial Summary page 8

Indicate the grant request amount for Field Survey, Data Analysis and total request. Indicate all other funding sources in the space provided. Be sure that other funds including in-kind match equals at least 25% of the total project cost. Previously developed Field Survey and Data Analysis data for this area that will be used in this project may be used in the match and should be valued at the actual cost of development. Only costs associated with this Field Survey and Data Analysis may be used in the match.

In-Kind matches include volunteer time, donated equipment time, and donated materials. All volunteer time, donated equipment time and donated materials must be valued at prevailing rates. Include a separate schedule that indicates the source of the contribution, the assumed hourly wage for valuing volunteer time, the number of volunteer hours, and the tasks to be completed by volunteers; the hourly rate for donated equipment time and the number of equipment hours; and the actual cost and description of materials for all donated materials. Note that if materials are donated by a wholesaler, the reported material costs must be the wholesalers cost, not the retail cost. If exorbitantly high wages and costs are reported, the department may deny the application.

Section 1: General Information

Lead Organization Name _____
Address _____
Contact person _____
Phone number_____ FAX number _____
Email _____

I CERTIFY TO THE BEST OF MY KNOWLEDGE THAT THE INFORMATION IN THIS APPLICATION IS TRUE AND CORRECT AND THAT I AM AUTHORIZED TO SIGN AND SUBMIT THIS INFORMATION ON BEHALF OF THE APPLICANT. If the signatory is not a board chair, city manager, county executive, tribal chair, board of commissioners chair, etc., a resolution authorizing the signatory to sign on behalf of the public body must be attached.
Signature of Agency
Chief Executive Officer _____Date_____

Partnering Organization Name_____
Address _____
Contact person _____
Phone number_____ FAX number _____
Email _____

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Signature of Agency
Chief Executive Officer _____Date_____

Partnering Organization Name_____
Address _____
Contact person _____
Phone number_____ FAX number _____
Email _____

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Signature of Agency
Chief Executive Officer _____Date_____

Section 2: Project Summary

1. **Title:**
2. **Location:** (Attach Map)

    a) Name and number of Water Resource Inventory Area (WRIA):

    b) County(s) in which project will be implemented.

    c) Describe the geographic extent of the Field Survey proposed.

3. **Coordination:**
    a) Describe any existing/ongoing Field Survey and Data Analysis efforts in this WRIA.

    b) Describe proposed coordination efforts for Field Survey and Data Analysis with partners in this WRIA.

4. **Field Survey Methods:** Describe the specific activities proposed for each applicable phase of Field Survey.

    a) *Identifying the location of barriers.*— Explain how data will be collected and organized.

    b) *Barrier assessment, evaluating passability*—Explain what measurements and criteria will be used.

c) *Prioritizing identified barriers for correction*—Explain what measurements and criteria will be used.

5. Describe how the data will be stored, what format is proposed and how this data can be accessed by others.

6. Estimate the number of road miles covered by the proposed Field Survey_____

7. Estimate the number of stream crossings that will be examined for this project_____

8. Who owns the barriers to be examined by this Field Survey? (i.e. Name(s) of state agency(s), local agency(s), private owner(s), etc.)

a) Who are the landowners along the stream? (i.e. Name(s) of state agency(s), local agency(s), private owner(s), etc.)

9. If the applicant(s) are not the owner(s) of these facilities, how will access be obtained?

10. Please provide the Name, Address and Phone # of the person responsible for ensuring that this Field Survey is conducted in an effective manner.

Section 3: Species/Habitat Information

In the matrix below check the salmon and trout species occurring in this stream and their status according to the SASSI report.

	Healthy	Depressed	Critical	Unknown	Extinct	Info Source
Chinook						
Coho						
Sockeye						
Chum						
Pink						
Steelhead						
Bull Trout/ Dolly Varden						
Rainbow						
Cutthroat						
Cutthroat (sea run)						

	Present	Info Source
Brown Trout		
Atlantic Salmon		
Unknown		

Section 4: Financial Summary

GRANT REQUEST	**Field Survey**	**Data Analysis**	**Total**
Fish Passage Grant Request			
LEAD ORGANIZATION NAME :			
Phase	Field Survey	Data Analysis	**Total**
Fund Source(s)			
State			
Local Funds			
Private Funds			
In-Kind			
Other:			
SubTotal			
Participating Organization:			
Phase	Field Survey	Data Analysis	**Total**
Fund Source(s)			
State			
Local Funds			
Private Funds			
In-Kind			
Other:			
SubTotal			
Participating Organization:			
Phase	Field Survey	Data Analysis	**Total**
Fund Source(s)			
State			
Local Funds			
Private Funds			
In-Kind			
Other:			
SubTotal			
Total Contributions			
Total Contribution Percent			
Anticipated Completion Date			

Appendix H

Memorandum of Agreement WSDOT & WDFW

Not available in electronic version of this document.

Appendix I

A Success story

Due to the size and space requirements of the “success story” photos, they are not available to the on-line report.